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### ISWA Blog: How Waste Can Help Protect Top Soil

As we leave 2015, the United Nations Year of Soil, behind us, ISWA President David Newman explains the role of waste managers in ensuring soils remain healthy, water retaining carbon sinks.

11.01.2016 17:15

iswa blog opinion Biological Treatment composting unep







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2015 was the United Nations Year of Soi many of you knew that ? I admit, it passe more or less until almost the end of the

waste-management-world.com/a/waste-to-energy-agreement-between-masdar-and-beeah-in-uae

http://waste-management-world.com/a/iswa-blog-how-waste-canhelp-protect-top-soil

### All products based on fossil fuels could be made from biomass – Dr Philippe Mengal

17 December 2015 by Gary Finnegan



Biomass is the best way to transform, reuse and recycle carbon dioxide according to Dr Philippe Mengal. Image courtesy of Philippe Mengal

Non-edible biomass could replace petrochemicals in providing energy to heat and light our homes, as well as in producing a vast array of plastics, lubricants, paints and a host of industrial chemicals, according to Dr Philippe Mengal, the recently appointed executive director of the Bio-Based Industries Joint Undertaking (BBI JU), a public-private partnership between the EU and bio-based industries.

Using biological material - biomass - to produce energy or materials is considered to be a sustainable alternative to fossil fuels, but is there competition between this and food production? http://horizonmagazine.eu/article/all-products-based-fossil-fuels-could-be-madebiomass-dr-philippe-mengal\_en.html



Record global temperatures, driven by El Nino, contributed to devastating fires in Australia. EPA/Department of Fire and Emergency



It's official: 2015 was the hottest year on record. The US-based Oceanic and Atmospheric Administration has confirmed over 2015 saw the global average temperature <u>climbing to 0.90°C</u> ab 20th-century average of 13.9°C. The record has been confirmed <u>UK Met Office</u>.

It's been only a year since the record was previously broken, bu stands out as an extraordinarily hot year 2014 the previous ho

http://theconversation.com/its-official-2015-was-the-hottest-yearever-recorded-53283

### Some Cautionary Tales for the International Year of Soil

Global Soil Week > News and Opinion > Opinion > Some Cautionary Tales for the International Year of Soils

First in series of guest Blogs from Ian Scoones

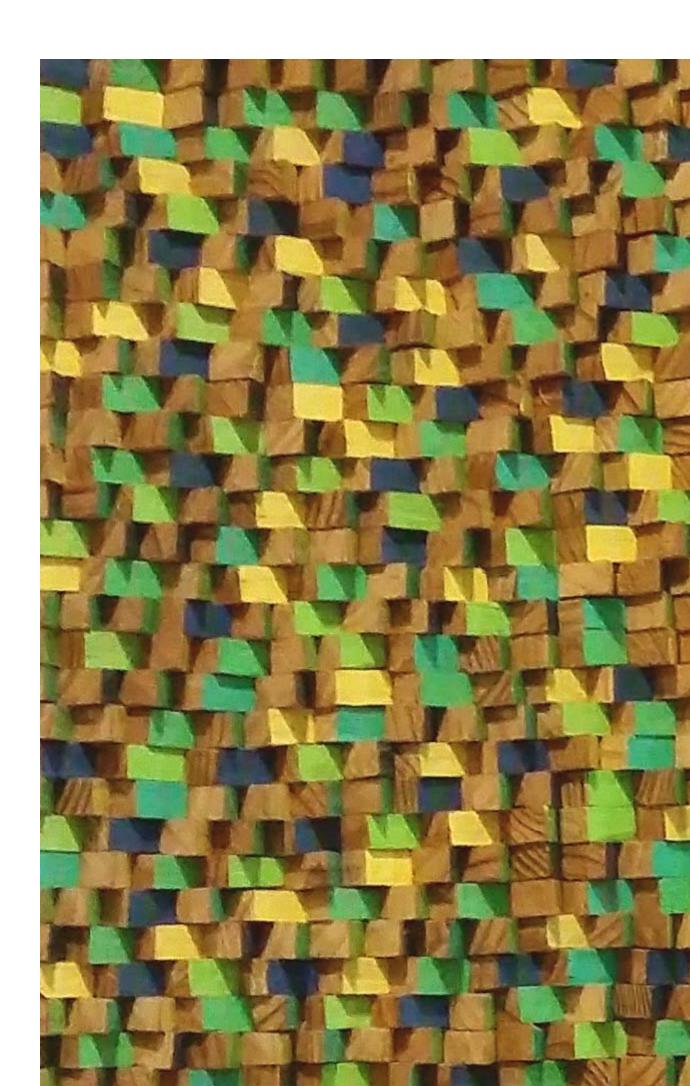
You may not know, but 2015 is the International Year of Soils. Soils are of course vitally important for agriculture and livelihoods, but they often go unsung and are routinely uncared. The Year of Soils, promoted by the FAO, is aimed to put soils into the spotlight. The Director General of the FAO, Jose Graziano Da Silva, puts it nicely: "The multiple roles of soils often g unnoticed. Soils don't have a voice, and few people speak out for them. They are our silent al food production".

The recent high-profile Montpellier Panel report pulls together much of the science, and mak strong case for taking an integrated and holistic approach to soil management to promote so health. If we lose soils, then we lose the basis for life, it argues. While climate change, correct has gained the international spotlight, making sure the basic substrate for human survival is i good condition may be equally important.

http://globalsoilweek.org/news-and-opinion/some-cautionary-tales-for-the-international-year-of-soils

### Leading a green lifestyle could help us be more satisfied – Prof. Ricardo García Mira

04 November 2015 by Shaoni Bhattacharya



Prof. Ricardo García Mira believes happiness is not dependent on material wellbeing. Image courtesy of Prof. Ricardo García Mira

People will need to lead less materialistic lifestyles if we are to transition to a green economy, but the challenge in changing actual behaviours and lifestyles lies in overcoming our ingrained notions about consumption, success and happiness.

That's according to Ricardo García Mira from the University of A Coruña in Spain, who is leading an EU-funded project looking at how to encourage people to behave in a pro-environmental manner. http://horizon-magazine.eu/article/leading-green-lifestylecould-help-us-be-more-satisfied-prof-ricardo-garc-mira\_en.html



The national flower of Zimbabwe, the Glory Lily, is also found in Queensland where it's more famously known as a noxious weed that's highly poisonous to hun



Australia is so famous for its dangerous creatures that visitors often arriv everything that moves is out to get them. In a land where snakes, spiders one of the iconic mammals – the platypus – can bite or sting, should we about plants as well?

Plants around the world produce a staggering diversity of chemicals and potentially toxic to animals including humans, sometimes even upon con these toxins have evolved to protect plant roots, leaves and unripe fruits

http://theconversation.com/little-shop-of-horrors-the-australianplants-that-can-kill-you-50842





The world's soils could be a key ally in the fight to limit global warming to 2°C, thanks to their ability to store carbon and keep greenhouse gases out of the atmosphere.

France's agriculture minister Stéphane Le Foll has founded an ambitious international research program, called "4 pour mille" ("4 per 1000"), which aims to boost the amount carbon-containing organic matter in the world's soils by 0.4% each year.

The program was launched officially today at the United Nations climate summit in Par with the hope to sign up as many nations as possible.

How much carbon do soils store? A lot. At about 2.4 trillion tonnes of carbon, soil is the largest terrestrial carbon pool, and the top 2 metres of the planet's soils hold four times much carbon as all the world's plants. Carbon stored in soil can also stay there for a very 

http://theconversation.com/eyes-down-how-setting-our-sights-onsoil-could-help-save-the-climate-51514

## Land rights are crucial but not the ultimate solution



January 6, 2016 By: Han van de Wiel Expert opinion



To contribute to the objectives of the IYS 2015, the F&BKP commissioned Impact publish seven background articles on themes related to international soil and land enhancing food security. The last article "Land Rights are crucial but not the ultim solution" has been written in Dutch by Han van de Wiel of ImpactReporters and w published on the Kennislink website on December 18, 2015. Please find below a tr the article in English.

http://knowledge4food.net/land-rights-are-crucial-but-not-theultimate-solution/



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An industrial pulp-wood plantation in Sumatra, Indonesia. William Laurance, Author provided
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The past year has been a momentous time for the world's forests, with both good and bad news. Fasten your seat belts, because 2016 promises to be another roller-coaster ride.

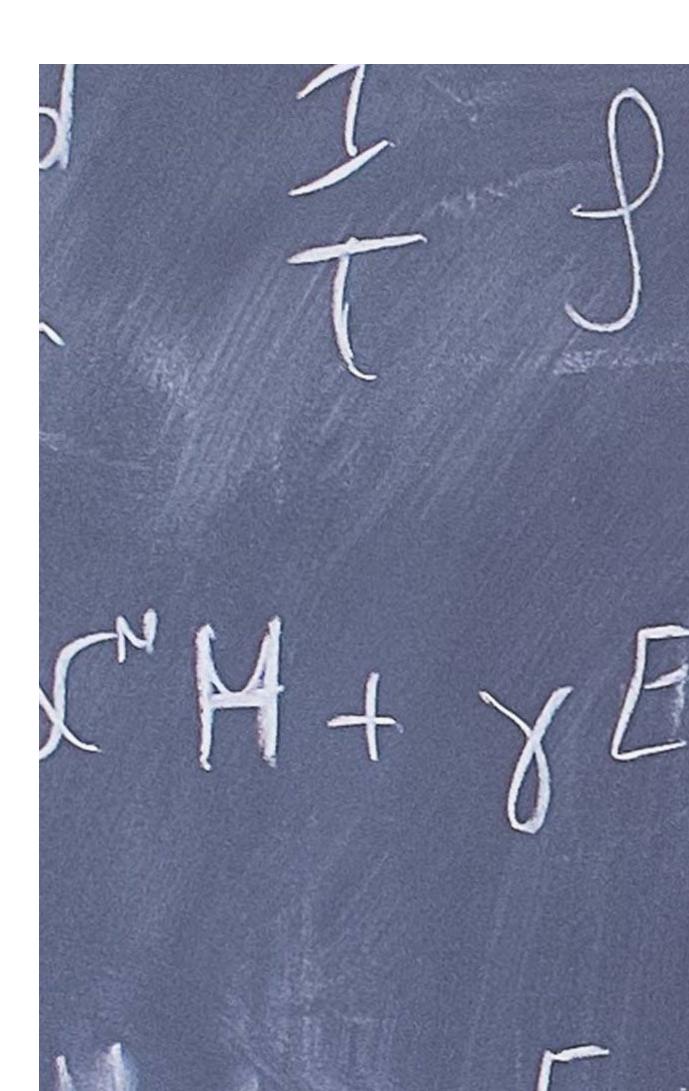
Here I hightlight five factors that could have a big impact on forests this year. For further discussion, see this insightful analysis by environmental journalist Rhett Butler.

http://theconversation.com/five-trends-that-will-define-the-worldsforests-in-2016-53154

### Choose an interesting question and go after it with gusto - Prof. Nicola **Spaldin**

18 August 2015

KEY THEME: WOMEN IN SCIENCE by Joanna Roberts



By the time she retires, Prof. Nicola Spaldin would like to have made a room temperature superconductor. Credit: Körber-Stiftung, Friedrun Reinhold

Young researchers should pick a question they are really interested in, and then go after it with gusto, says materials scientist Professor Nicola Spaldin, who has been named winner of the 2015 Körber European Science Prize which honours outstanding scientists working in Europe.

You're working on making materials that are magnetic (ferromagnetic) and also have a so-called electric dipole moment, whereby they have both a positive and a negative charge (ferroelectric). Why?

http://horizon-magazine.eu/article/choose-most-interesting-question-worldand-go-after-it-gusto-prof-nicola-spaldin\_en.html



July 14, 2015 6.18am AEST

Print

Soil and water are crucial resources that need to be carefully studied and preserved. Pete Hill/Flickr, CC BY-NC

📔 Email		This article is part of our series on the <u>Science and Research Priorities</u> recently announced by the
🎔 Twitter	57	Federal Government. You can read the introduction to the series by Australia's Chief Scientist, Ian
f Facebook	71	Chubb, <u>here</u> .
in LinkedIn	38	

#### John Gunn

Chief Executive Officer of the Australian Institute of Marine Science

Australia's soil, water, vegetation and biodiversity, and our vast marine estate, are incredibly valuable national assets. They are fundamentally interconnected components of the continent's diverse, unique and in many instances fragile ecosystems.

As such they need to be managed effectively. However significant gans in our

http://theconversation.com/science-can-drive-the-sustainability-of-our-precious-soils-water-and-oceans-43641

### Farmers are cherishing their trees a

Sixth IYS2015 article in a series



December 14, 2015 By: Marianne Heselmans Expert opinion

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To contribute to the objectives of the IYS 2015, the F&BKP commissioned ImpactR publish seven background articles on themes related to international soil and land enhancing food security. The sixth article 'Nigerien farmers are cherishing their tre has been written in Dutch by Marianne Heselmans of ImpactReporters and was publish **Kennislink website** on December 8, 2015. Please find below a translation of the English.

http://knowledge4food.net/farmers-are-cherishing-their-trees-again/



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This seemingly small change reflects big upheavals in Australia's gas market as exports expand significantly.

http://theconversation.com/heading-north-how-the-export-boom-is-shaking-up-australias-gas-market-52963

# Large scale soil restoration for climate change adaptation, mitigation what's in it for smallholder farmers?

Global Soil Week > News and Opinion > News > Large scale soil restoration for climate change adaptation, mitigation and food security – what's in it for sma

#### Land Degradation Endangers Livelihoods and Climate

The land on our planet is rapidly degrading, causing a chain reaction of loss of livelihood, hunger, land-use cha human migration. A recent scientific study on global land degradation estimates that 23% of global land is alrea 10 million hectares per year. Climate change exasperates the chain reaction of land degradation.



© Keerthi Bandru

Large scale land restoration and effective soil protection are sustainable development goals, as well as for climate change which is visible on many levels, not least in the INDCs (Intended the UNFCCC-process). A number of large scale land restoration COP21, and the Global Landscapes Forum, the leading platform place from 5-6 December 2015. With an expected 3000 stakehol law, and finance, is the largest side event to the COP FCCC clim protection of degraded soils make a real contribution to climat forest land to farm land can be avoided through restoration a here). Sustainable land management (SLM) techniques on age

mitigation through the increase of soil organic carbon, (UNCCD, 2015).

http://globalsoilweek.org/areas-of-work/sustainable-land-management/soilrestoration-climate-change-adaptation-mitigation-food-security



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A golden-tailed gecko - one of the inhabitants of the Brigalow Belt. Eric Vanderduys, Author provided



The Brigalow Belt in Queensland is a national hotspot for wildlife, especially for birds and reptiles. Many of these, such as the black-throated finch, golden-tailed gecko and brigalow scaly-foot are found nowhere else in the world.

But the region is also one of the most transformed and contested areas in Australia. People want to use the Brigalow for many different things: conservation, grazing, agricultural production, mineral and gas extraction. This region also overlaps with the country's largest reserves of coal and coal seam gas.

Together, the economic activities in the region bring land clearing, changes to water sources, invasion of exotic species and changed fire patterns, which threaten the region's unique biodiversity.

Currently, at least 179 species of plants and animals are known to be threatened in the region. In research published <u>today</u> we look at the best way to conserve these species, attempting to balance the competing uses of this region.

Townsville

http://theconversation.com/a-fine-balance-saving-australias-unique-wildlifein-a-contested-land-52703

### Open science should help us to question innovation – Professor Alan Irwin

by Ben Deighton



Professor Alan Irwin believes open science can raise questions about what science is for, what it is leading to, and what kind of innovations we want to have. Photo courtesy of Alan Irwin

Open science should mean that citizens have the chance to put questions to scientists and have a say on the kind of innovations that are being funded, according to Professor Alan Irwin from the Copenhagen Business School.

What examples of open science do you see happening already? http://horizon-magazine.eu/article/open-science-should-help-usquestion-innovation-professor-alan-irwin\_en.html





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The prize for the most painful and sometimes deadly (more on that later) stings in the insect kingdom goes to ... wasps, bees and ants.

There are many insects that bite, such as beetles and dragonflies, or suck your blood w long hypodermic mouthparts (mosquitoes, for instance, and sandflies). But none of the are deadly in themselves.

http://theconversation.com/ants-bees-and-wasps-the-venomousaustralians-with-a-sting-in-their-tails-51024

### Opinion: Enough 'Anthropocene' nonsense – we already know the world is in crisis

18 January 2016 by James Scourse, The Conversation



We don't need future geological evidence to tell us nuclear tests are bad. Credit: US Department of Defence

At a public seminar at a respected university in Scandinavia on how to promote cross-disciplinary research last year, the dean of one of the faculties passed the comment that "now we are living in the Anthropocene, everything we see around us, everything in our environment, we realise is the result of human activity".

Read more at: http://phys.org/news/2016-01-opinion-anthropocenenonsense-world-crisis.html#jCp

Research papers will be free to access, eventually – Nature's Philip Campbell

by Ben Deighton



Governments could use the money spent on journal subscriptions to pay instead for publishing research papers, according to Nature Editor-in-Chief Philip Campbell. Image Credit: World Economic Forum/Sebastian Derungs

Researchers and funding agencies will foot the cost of publishing academic papers rather than readers, as academic journals adapt to a world in which open access becomes increasingly important, according to Nature Editor-in-Chief Philip Campbell. http://horizonmagazine.eu/article/research-papers-will-be-free-access-eventuallynature-s-philip-campbell\_en.html



The town of Yarloop was engulfed by an inferno on January 9. AAP Image/Department of Fire and Emergency Services



The recent catastrophic fires at Yarloop in Western Australia and Wye River in have raised the issue of how authorities communicate emergency warnings.

In Yarloop, where two people died, <u>debate has arisen</u> about the use of SMS-base which reportedly may have arrived after the fire had reached the township. The Australian government will investigate the fire.

On Victoria's Great Ocean Road, towns were successfully evacuated so no peopl

http://theconversation.com/expectations-and-harsh-reality-whybushfire-warnings-fail-53050

### Sustainable food, materials, and energy will flow from a technologydriven bioeconomy - Professor Erik Mathijs

19 June 2015 by Catherine Collins



Having a bioeconomy is one of the best ways to provide the world with enough food, materials, chemicals and energy, says Prof. Erik Mathijs.

A strong bioeconomy, which uses technology to maximise the use of renewable resources, is the best way to ensure the sustainable production of food, materials, chemicals, and energy, according to Professor Erik Mathijs, chair of the foresight expert group for the Standing Committee on Agricultural Research, which presented its fourth foresight report at Expo Milano http://horizonmagazine.eu/article/sustainable-food-materials-and-energy-willflow-technology-driven-bioeconomy

# Hanley: Healthy soil vital to our future

Paul Hanley, Saskatoon StarPhoenix More from Paul Hanley, Saskatoon StarPhoenix Published on: 4 January 2016 |



Farmers work in a field south of Delisle. Gord Waldner / The StarPhoenix

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The International Year of Soils has ended, but the struggle to save our most important and endangered resource has just begun.

The UN Food and Agriculture Organization published the first-ever global assessment of soil conditions, with the key message that the majority of the world's soil resources are only in fair, poor or very poor state. http://thestarphoenix.com/opinion/columnists/0104-edit-hanley-col

### How Wikipedia's silent coup ousted our traditional sources of knowledge

15 January 2016 by Heather Ford, University Of Leeds, The Conversation



Happy 15th birthday Wikipedia! Credit: Beko, CC BY-SA

As Wikipedia turns 15, volunteer editors worldwide will be celebrating with themed cakes and edit-a-thons aimed at filling holes in poorly covered topics. It's remarkable that a user-editable encyclopedia project that allows anyone to edit has got this far, especially as the website is kept afloat through donations and the efforts of thousands of volunteers. But Wikipedia hasn't just become an important and heavily relied-upon source of facts: it has become an authority on those facts.

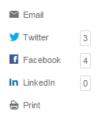
Read more at: http://phys.org/news/2016-01-wikipedia-silent-coup-ousted-traditional.html#jCp

# We could reduce pest carp in Australian rivers using a disease that came from Israel

January 21, 2016 12.00pm AEDT



There are too many carp in Australia and a herpes virus may be the answer. Daniel Wnake/pixabay.com



Everyone wants to give Australian carp the herpes virus. That's right,
introduced carp are a serious pest species and research suggests that a
viral control agent may be the most effective solution.

I love stories like this one, where groups that would normally disagree come together in an <u>"unlikely coalition</u>". That is to say, fishers, conservationists, irrigators, scientists and farmers agree on the

http://theconversation.com/we-could-reduce-pest-carp-in-australian-rivers-using-a-disease-that-came-from-israel-53492



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Sundays 7:45am

Presented by Rol

### The zillion year town

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show transcript

Sunday 17 January 2016 7:45AM (view full episode)

Our cities and suburbs are unsustainable. Their construction, maintenance, and operation consumes: cement, concrete, steel, aluminium, brick, tile, glass, marble, tarmac, coal, oil, gas, and just about every other non-renewable. Little is reused, and only a modest proportion is recycled. Infrastructure Consultant Nick Sharp is suggesting that we live in medium-sized towns which are sustainably constructed and where all buildings would have



IMAGE: HOW A SUSTAINABLE TOWN COULD BE LAID OUT. (NICK SHARP)

composting toilets, which would also take all kitchen scraps. Full hoppers would be swapped out and the material processed and sent to the food and fibre lands. This saves water and closes the phosphate cycle before we exhaust the phosphorus mineral sources, on which today's agriculture deeply depends.

http://www.abc.net.au/radionational/programs/ockhamsrazor/the-zillion-dollar-city/6991260

# North Korea bomb test: Kim Jong-Un is riding a tiger he dares not dismount

OPINION By Damien Kingsbury Updated 8 Jan 2016, 10:41amFri 8 Jan 2016, 10:41am



**Photo:** North Korean leader Kim Jong-un delivers an address in Pyongyang. (Reuters/KCNA)

The world has every reason to be concerned that North Korea's belligerent behaviour might tip over into active aggression. But Kim Jong-Un's threats are really about keeping control, writes Damien Kingsbury.

North Korea's claimed success in testing a hydrogen bomb - a thermonuclear weapon significantly more powerful than an atomic bomb - has set the world on edge.

Damien Kingsbury is Professor of International Politics at Deakin University.

http://www.abc.net.au/news/2016-01-08/kingsbury-kim-jong-un-is-riding-a-tiger-he-cant-dismount/7075830

# Opinion: What science can tell us about the 'world's largest sapphire'

7 January 2016 by Simon Redfern, University Of Cambridge, The Conversation



How did the Star of Adam grow so big? Credit: BBC

The "Star of Adam", recently found in a mine in Sri Lanka, is believed to be the biggest sapphire ever discovered. It weighs in at over 1,404 carats, that's around 280g or just under ten ounces. But what do we know about the formation of this remarkable gemstone – and how could it grow so huge?

Read more at: http://phys.org/news/2016-01-opinion-science-world-largest-sapphire.html#jCp

### Nuclear deal success: Iran has proven the critics wrong

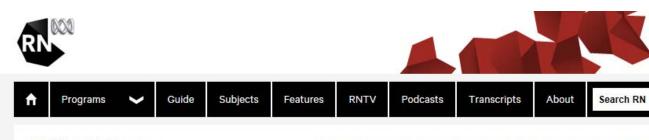
OPINION By Amin Saikal Posted Mon at 3:54pmMon 18 Jan 2016, 3:54pm

**YouTube:** John Kerry talks about "implementation day" of Iran deal The Islamic government of Iran has clearly demonstrated that when it comes to its interests, it is flexible enough to put its pragmatic needs before its ideological stance, writes Amin Saikal.

The successful implementation of the nuclear deal signed between the Islamic Republic of Iran and the five permanent members of the UN Security Council and Germany (P5+1) last July is a powerful testimony to what diplomacy can achieve.

<u>Amin Saikal</u> is Distinguished Professor of Political Science and Public Policy Fellow at the Australian National University, and author of Iran at the Crossroads (Cambridge: Polity Press, 2016).

http://www.abc.net.au/news/2016-01-18/saikal-us-iranian-relations-enter-a-new-phase/7095270



Ockham's Razor

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### Worms glorious worms

▶ Listen now 👲 Download audio 🗋 show transcript

Sunday 3 January 2016 7:45AM (view full episode)

When Dr Pat Hutchings first studied sea worms nearly 50 years ago in the cold waters off the coast of North-East England she became hooked on the work, and study of these animals, which come in a tremendous variety of shapes and sizes, often brightly coloured with extensile feeding crowns, flexible feeding tentacles and massive sets of jaws to catch their prey. With retirement looming Pat Hutchings continues her work on these fascinating creatures.



IMAGE: LANICE VIRIDIS, IS ONE OF THE NEW SPECIES OF SEA WORMS FOUND IN THE CORAL REEFS OFF LIZARD ISLAND. (ALEXANDER SEMENOV.).



Sundays 7:45 Presented by

http://www.abc.net.au/radionational/programs/ockhamsrazor/worms-glorious-worms/6990848

### We should prepare for climate change: Professor Bob Carter 1942-2016

By Jennifer Marohasy - posted Thursday, 21 January 2016

Outspoken critic of catastrophic global warming theory, Bob Carter, died in Townsville on Tuesday (19 January, 2016) aged 74. Professor Carter did not like the term sceptic, he considered himself a rationalist, and popular usage of the term 'climate change' a tautology. As he wrote frequently: the geological record tells us that climate always changes. In Professor Carter's passing we have lost a person who believed in value-free science.

#### About the Author

Jennifer Marohasy is a senior fellow with the Institute for Public Affairs.

http://www.onlineopinion.com.au/view.asp?article=17969



### A better soil bank

Story Comments

Posted: Monday, December 21, 2015 8:00 am

By Trent Loos | 🛡 o comments

s we close out 2015, I wanted to emphasize a few successes in American agriculture. In a speaking for the year, I met a tremendous set of people from Maryland to South Dakota gig in Iowa. At the South Dakota Cattlemen's 67th annual convention, I got to spend so long-time friends from Ideal, South Dakota—the Jorgensen family. I want to extend my to the five generations of their family that were present to be receive the Leopold Conservation Av it's all about—creating something you can pass down through the family!

I am confident most everyone in the cattle business is familiar with the Angus cattle breeding pro Jorgensen family has built based upon carcass merit. Martin and Mary will be celebrating 70 year coming July, and Martin is quick to talk about how important Mary has been from Day One of the presence of five generations makes it obvious that making family a top priority is the key to the su operation.

I would like to share with you the side of the Jorgensen Land and Cattle enterprise that fewer are honestly the reason they were recognized for the Leopold Award. Bryan implemented numerous crop side of the business that led to this award. Soil health is absolutely top of mind for Bryan and day we met 15 years ago, he has been a champion for building organic matter levels in the soil.

http://www.hpj.com/opinion/a-better-soil-bank/article\_c056a6ee-5d00-52b6-9d28-f881acea5037.html

### Current Environmental Strategies and Why They Do

Global Soil Week > News and Opinion > Opinion > Current Environmental Strategies and Why They Don't Work

by Katleen De Flander

December 3, 2014

When I give presentations about my work, I usually start with this question from the D American sociologist and economist Saskia Sassen:

> "Are our global ecological conditions the results of urban density ar agglomeration or are they the results of the specific types of urban systems have developed to handle transport, waste, disposal, building, heating and food provision, and the industrial processes by which we extract, grow, package, distribute, and dispose of the foods, services and materials that w (from her essay: Bridging the ecologies of cities and of nature)

Like Sassen, I believe that the latter is the case. However, in reality the task of changi systems is extremely complex, given the fact that they are all interconnected and cau path dependencies. Furthermore, transforming them entails change, and people usual change. Change provokes resistance from those who benefit from the old systems (oft currently in power). Real change is therefore usually missing in environmental strateg

http://globalsoilweek.org/areas-of-work/transforming-cities/why-currentsustainability-strategies-dont-work

Soil cycles water and elements and transforms energy and matter. Paraphrased from G-Soil Blog